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Three scenarios for Green Public Procurement

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W-02/16

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Abstract

This paper addresses the future of Green Public Procurement (GPP). The background is the EU-funded RELIEF project (EESD-EVK-2000-00723). This study attempts to assess the direct environmental relief from EU-wide green public procurement. First, this paper briefly describes socio-economic developments that are thought to be influential to GPP. The second part reports the result of a brief inquiry among stakeholders in the GPP community, which aimed to assess what GPP is currently about and what developments are expected. Finally, three scenarios for the future of GPP are described, entitled: Business-as-usual; Enthusiasm for GPP and Sustainable Public Procurement.

1. Introduction

What will be the future of green public procurement (GPP)? What will be the legal scope for expanding the role of environmental considerations in procurement processes? Will environmental considerations change, and will there be a shift in environmental focus of GPP? What products will become important from a GPP perspective? Will spending of local authorities increase? Will GPP become mainstream among local authorities? What will the role of GPP in all efforts/instruments to improve the environment? To be prepared for the future one must address this sort of questions.

The present paper attempts to address these questions by developing scenarios for GPP. The background of this interest is the RELIEF project¹. This project – funded under the Key action “City of Tomorrow and Cultural Heritage” within the 5th Framework Programme of the European Commission, DG Research – intended to identify the potential direct environmental benefits of GPP. Such knowledge would give ground to the development of a European strategy for GPP. In addition, the assessment of potential that green purchasing offers (or does not offer) meets a demand of local authorities throughout Europe that want to apply GPP but are unable – due to lack of resources and expertise - to assess the environmental relief of green alternatives to certain products.

Scenarios are series of considerations that may underpin thoughts and possible decisions about future actions in a certain policy area. So, they serve to develop strategies. Scenarios sensitise a policy community to possible developments in order to be better prepared for the future. Scenarios attempt to identify trends that are outside the scope of that certain policy area, which likely have some impact in that area. These scenarios describe also how these trends are influential.

The starting point is the analysis that the future of GPP depends on a series of drivers that are independent from developments within GPP itself. For instance, future GPP depends on macro-economic developments, while the impact of GPP on macro-economic development is negligible. Chapter 2 of the present paper discusses a series of these drivers (or determinants).

Against the background of the analysis in Chapter 2, the GPP community was surveyed for opinions on drivers (and hurdles), and, also, for expectations with respect to the future. This survey – a series of interviews among stakeholders at the level of policy analysis and advice, and a written inquiry among practitioners of GPP and green purchasing – is described in Chapter 3. Chapter 4 then presents 3 scenarios for the future of green public procurement with a particular emphasis to assess future environmental relief. Chapter 5 concludes.

¹ Project code EESD-EVK-2000-00723 (see www.iclei.org/ecoprocura/relief/).

2. Trends that may influence Green Public Procurement and its Environmental Relief

2.1 Introduction

This chapter elaborates a series of drivers that are assumed to be relevant for the future of GPP. These determinants are listed in Table 2.1. These determinants are elaborated upon below with, in particular, an eye on their developments.

Table 2.1 Determinants of the environmental relief of Green Public Procurement (GPP).

Determinant (or driver)	Description & possible developments
Total level of public procurement	If assumed to be proportional with GDP, public procurement expenditures might double in the period 1995 – 2025.
Availability of green alternative products	Will GPP-demand prompt new ‘green’ products? Will there always be still greener products? Crowding-out effects? What are the future environmental problems?
Availability of information	How easy can a procurement officer identify green alternatives? Will centralisation of GPP become more viable, e.g. through information and communication technology (ICT)?
Privatisation/marketisation	Will the outsourcing of public sector tasks (e.g., public transport) be beneficial or detrimental to GPP?
Public management style	Will organisational change in public management (i.e. towards more contract management) hinder or facilitate GPP?
Transparency of legal rules	Procurers may stay away from GPP because of expected legal complications associated with GPP.
Public awareness	A high public awareness of the environment issue will support initiatives of procurers to buy green.
Political priority of the environment	Procurement decisions that require political consent will be greener the higher environment is on the political agenda.

2.2 Total level of public procurement

The first determinant is the total level of public procurement. Obviously, green public procurement, being a subset of public procurement, would, *ceteris paribus*, depend on the total level of all public procurement. How will expenditures from public procurement develop in the coming 25 years? We did not find studies that addressed this question. We assume now that public procurement is proportional to total public expenditures (i.e. Government Final Demand), which would, in turn, be proportional to gross domestic product.

Table 2.2 shows large differences in GFC per capita among the different EU member states (and associated countries). Historical data on the developments of government final consumption (GFC) across European countries shows no regular pattern. In the period 1990-1998 GFC (per capita) decreased in some countries (e.g., Sweden – 1.0%; The Netherlands

– 1.3%), while in other countries GFC was on the rise (e.g., Belgium 0.7%; Germany +1.0%) (SCP, 2001, p.105).

Table 2.2 Gross Domestic Products (GDP) per capita and Government Final Consumption(GFC) per capita across Europe (1999).

Country	GDP per capita (Thousand €)	GFC per capita (Thousand €)	Country	GDP per capita (Thousand €)	GFC per capita (Thousand €)
EL	11.5	1.7	A	25.5	4.9
P	11.5	2.3	FI	25.5	5.2
E	15.4	2.6	IRL	27.2	3.7
I	20.2	3.6	S	27.9	7.3
F	22.8	5.3	DK	33.0	8.1
B	23.8	5.0	CH	36.5	5.2
G	25.1	4.7	N	38.6	7.4
UK	25.2	4.7	L	44.6	7.4
NL	25.3	5.7	EU	22.9	4.5

Source: EC, 1999.

Compared with the USA and Japan public expenditures, as a percentage of GDP, in the EU is high: 48% in 1998. The figures for the USA and Japan are 30.5% (USA) and 36.3% (Japan). In the most non-EU European countries public spending is likely higher, for historical reasons.

A recent authoritative study of the development of the EU's economy (EC, 1999) expects an increase in GDP of the EU-15 from € 7,374 billion in 1995 to € 12,767 billion in 2020. By extrapolation, we may assume that by 2025 GDP will have doubled.

Will public procurement also double? We did not identify studies that address this question. There is some historical data, however (OECD, cited by SCP, 2001, p.100). In the period 1990-1993 EU-14 average public expenditures as a percentage of GDP increased slightly from about 49% to 52%, and decreased afterwards to 47.9% in 1998. The suggestion is that public procurement – as a share of GDP – is being reduced. The scope of such decrease might be found from comparing EU figures with data for the US and Japan. So, both the historical data and the comparison suggest public expenditures (and related share of final government consumption in GDP) tend to decrease. Lacking a sound analysis of the backgrounds of these developments – the privatisation trend is presumably a relevant driver - and differences, one can only conjecture: EU final government consumption will increase by about 50%.

Level of expenditures for products

How about the future of the specific Relief products? An assessment of the developments product by product would require extensive studies. Such is beyond our capabilities. For electricity, however, one may observe that electricity intensity (consumption of electricity per unit final government consumption) will decrease. Total final demand (including demand from the private sector) for electricity increases by about 50% up to 2020 (Ribiero *et al.*, 2002). The assumption is that final demand from the public sector will increase by 50% up to 2025.

Table 2.3 summarise the assumptions about the future of the RELIEF products in public procurement.

Table 2.3 Assumptions about the level of future public purchase of Relief products.

Product in Relief	Future purchases
Electricity	Final demand for electricity increases by about 25% in the period 2000-2020 (Ribeiro <i>et al.</i> , 2002, p. 48). Assume electricity consumption of public administrations will increase with 50%.
Buses	Travel per capita rises with income (Ibid. p. 46). However, bus transport lags behind general transport: rising incomes lead to a disproportional increase in private transport.
Office furniture	Purchase proportional to GFC, in turn proportional to GDP.
Water saving toilets	To increase with growth of population.
Computers	Purchase proportional to GFC, in turn proportional to GDP.
Food	To increase with growth of population.

2.3 Availability of green alternative products

Could it be that, in the future, GPP would not be possible because of lack of green products? Probably yes, for different reasons.

An important reason may be the lack of capacity in the production of green alternatives, if GPP increases at a fast pace. A very relevant example is production capacity for green electricity. Studies (e.g. Ribeiro *et al.*, 2002; Frogatt *et al.*, 2000) doubt on the feasibility of the EU-target to produce 20% of all electricity from renewables by 2010.

Second, it could be that environmental standards for products become that strict that even greener alternatives are not feasible. The stricter the standard, the less there is scope for products that perform better than the standard, while not being prohibitively more expensive. This happened to GPP *vis-à-vis* the depletion of the ozone layer. For instance, in green buyer manuals may still require refrigerators and freezers not to contain ozone layer depleting CFCs as a cooling agent, while in practice this substance is not used any more in cooling equipment. So, by the ban on ozone depletion substances the role of GPP in reducing this type of pollution vanished.

Third, the future availability of green products depends also on (the perceptions of) the severity of the problem to which 'green' refers. If it would be widely agreed on that some environmental problem is 'solved', it is unlikely that there is an incentive to the industry to develop or market products that would thrive from that problem. For instance the problem of acidification - emissions of sulphur dioxide, nitrogen dioxide and ammonia – is reduced in severity (i.e. emissions have decreased enormously since the seventies). Emissions of heavy metals have also been reduced, for instance emissions of cadmium. So, obviously, the environmental incentive to develop green alternatives will be reduced.

So, when discussing the role of GPP in the future, one must take into account how environmental problems will evolve². GPP will be relevant, possibly increasingly relevant, to address the persistent environmental problems and possible ‘new’ environmental problems.

In the assessment of the European Relief the focus is mainly on the following environmental problems: climate change, acidification, ambient ozone air quality, water scarcity, eutrophication, waste production and human toxicity (Schmidt *et al.*, forthcoming). Acidification, ozone air quality, eutrophication are problem areas – to some extent overlapping – that have been addressed with some success. Human toxicity problems from mainly persistent micro-pollutants have also been reduced in a large extent. So our guess is that, in the relative sense, the most persistent problems are: climate change, waste production and water scarcity. Climate change – emissions of greenhouse gases is likely the most persistent problem: these emissions are still on the rise despite many efforts to reduce them. Water scarcity is a ‘new’ type of problem, becoming more and more urgent with an increasing demand for (clean) water.

Meanwhile, one may notice also a shift in the environmental discourse from “green” to “sustainable”. The common understanding of “sustainability”, e.g. in Agenda 21 processes, tends to include issues of equity and social-economics in addition to environmental issues. Green procurement may develop into sustainable procurement³.

Given these considerations developments in green products will be specific to products. Given the assumption that climate change is the most persistent problem, electricity and computers are the most relevant products. Water scarcity may also become important, although, water scarcity as problem will emerge mainly in other than European countries.

Table 2.4 gives some thoughts about future availability of green alternatives for the products in the Relief project. More about the relief potential in Section 4.2.1. Given the assumption that climate change is the most persistent problem, electricity and computers are the most relevant products. Water scarcity may also become important, although, water scarcity as problem will emerge mainly in other than European countries.

² Also it is possible that some products disappear for other reasons. For instance, typing correction fluid, which is one of the first (beginning of the eighties) products that was greened, is not a relevant product anymore.

³ For instance the concept of ‘organic food’ is sometimes understood as food grown in the region of consumption. This refers to environmental aspects from transport of food, but also to topics such as regional economies (rural development) and preservation of country life.

Table 2.4 Future availability of green alternatives for specific products.

Product in Relief	Future availability of green alternatives
Electricity	Climate change problem is persistent. In a liberalised electricity market there are economic restrictions to the capacity of green electricity production. Crowding out effects (Marron, 2001; Frogatt, 2000).
Buses	Main problem addressed is PM10 urban air quality. Stricter standards planned. Air quality to improve. Zero-emission buses being developed.
Office furniture	Environmental impacts of office furniture mainly associated with environmental problems that become less pressing, except for the waste problem.
Computers	Climate change problems. Low energy computers become mainstream, if cost of flat screens approach costs of CRT-screens.
Water saving toilets	Water scarcity. Product availability will be the same.
Food	Environmental effectiveness of “organic food” not well known. Other than strict environmental concerns are important as well.

2.4 Availability of information

For a procurer/purchaser it is important to have readily available appropriate information about green products and their availability in the market. Therefore, availability of information is a factor that influences the rate of introduction of green products. In other - economic – words, the coordination of green demand with green supply involves transaction costs. It is likely that through developments in the application of information and communication techniques (ICT) it will be easier for procurement officers to identify green alternatives. Of course, there must be some institution that collects and processes information into appropriate forms.

For some products it is relatively easy for a procurer or purchaser to identify a “green” product. Sometimes it is obvious, such as in the case of water saving toilets, in other cases a public procurer might rely on certification schemes to find products that are considered “green”, e.g. “green electricity”. For other products it will be less clear-cut what a green product is and what not. A common situation is that for some environmental aspect of a product the information is clear (e.g. electricity consumption of a computer), while with respect to another aspect it is, in practice, hardly possible to scientifically assess (and agree on) an environmental aspect (e.g., environmental pollution attributed to chip manufacturing).

The demand for environmental assessments of products is, however, very strong. One may expect a continuation of the development of schemes for eco-label systems. In general, there will be more information available.

Table 2.5 *Availability of information about green products.*

Product in Relief	Developments in information
Electricity	Green electricity is defined by an EC directive. There are certification schemes. Likely, lack of information is not a constraint.
Buses	Environmental characteristics are determined mainly by EU emissions standards. Lack of information seems not to be a constraint.
Office furniture	Environmental information fuzzy due to different materials in different products and different and changing production processes.
Water saving toilets	Environmental advantages are obvious.
Computers	Environmental information partly clear.
Food	The term organic refers to other aspects than only environmental (e.g. food safety, animal welfare). Food encompasses a wide variety of products, with very different environmental properties (Jungbluth, 1999). Many labeling schemes for 'organic food'.

2.5 Privatisation/marketisation

In many countries, public sector policies aim at privatisation of the production of public goods and services, the paradigm is that markets coordinate supply and demand for public goods more efficient than command and control mechanisms. From the perspective of public management it is wise to outsource the production of goods and services, in particular. The privatisation of the utility sector and the privatisation of public transport are the main examples.

Is outsourcing good or bad environmentally? There is, in first instance, no reason to believe outsourcing would make a difference in principle; local authorities that want to perform environmentally better than required under environmental law, can write their environmental demands in tender documents (e.g. in the definition of the subject matter of a procurement contract. Within the GPP community the trend of privatisation is hardly found relevant (see Chapter 3).

Table 2.6 *Privatisation and the Relief products.*

Product in Relief	Comment
Electricity	Markets of production and distribution are being liberalised. For consumers there is more freedom to choose for specific 'forms' of electricity (i.e. green electricity).
Buses	Public transport is being privatised, however, local authorities can ask for compliance with strict standards in the procurement process. Privatisation makes no difference for relief.
Office furniture	Not applicable.
Water saving toilets	Not applicable.
Computers	Not applicable.
Food	An authority that outsources its food service can set environmental demands in the same vein as in the case of buses. The preference of the eventual consumer (in a canteen) is presumably a constraint.

2.6 Public management style

Another inference of ‘marketisation’ (and of democratisation) is the trend towards contract or performance management as opposed to legalistic or command and control management. The idea of contract management is that some actor in an administration is given a mandate to do a certain job, while setting requirements to the performance of the job and giving freedom to “how to do the job”. In contrast, the characteristic of command and control management is that an actor is only given instruction on how to do a job.

Are changes in the degree of centralisation good or bad for green procurement? It appears that centralisation would be benign for green procurement. The main reason is that the transaction costs, per unit purchase, of identifying green products should be lower in centralised systems. Second, centralisation is potentially good since it makes the implementation of (top-down) political decisions to foster green procurement easier.

From the few analyses that have been made of barriers to green procurement (Van der Grijp, 1998) it appears that, up to now, the efforts of individual procurement officers have been the main drivers behind the green procurement. One may argue that centralisation of procurement would restrict the freedom of procurement officers to go for green products. On the other hand, among public servants higher in the hierarchy, there may also be individuals who would push forward green purchases. So, at first sight, the level of centralisation of procurement does not affect this driver for green procurement.

In sum, the appraisal is that this trend (decentralisation) is not beneficial to a progress in green procurement. Policies to foster green procurement would have to include elements that counteract the negative effects of ongoing decentralisation of procurement. These should focus on reducing the transaction costs of identifying green products. The application of new technology (information and communication technology – ICT) would important in this respect.

3. Views from the Green Public Procurement Community

3.1 Introduction

What ‘green’ products and services do “green procurers” actually buy? What are their expectations about the future of green public procurement (GPP)? What factors do they deem important to the development of green procurement? How do they justify their GPP efforts? These are just a selection of questions for which answers would help to formulate GPP scenarios and strategies to foster GPP.

This chapter reports on opinions and views on green procurement collected within the GPP community. Two methods were pursued. Firstly, six stakeholders in the public procurement field were interviewed. These stakeholders included public procurement and environmental policy analysts, civil servants in different governmental bodies, and suppliers of green products and services. Secondly, a questionnaire was sent to 51 contact persons of the BIG-Net⁴. BIG-Net (the “Buy It Green”-Network) is a network - hosted by ICLEI - of municipal procurers in Europe who are engaged in green procurement. The questionnaire – in English, German and French - was derived from the set of (structured) questions that was used in the interviews.

3.2 Interviewees, respondents and products

Who were the interviewed stakeholders, who were the respondents in the survey and what GPP products do they actually have in mind when thinking of GPP?

The interviewees included two policy analysts in different international organisations, a civil servant in the environmental department of a city council, a civil servant in a national government, one international supplier of green products in the office equipment sector and one supplier of catering products (national experience). The length of experience in GPP for these stakeholders varied from 12 months to 15 years.

The survey questionnaire was sent to the 51 participants of the “Buy It Green”-Network of Municipal Purchasers in Europe. Of these, twenty-six answered. 65% of these respondents are environmental officers, 23% are purchasers, while there was one politician, one Agenda 21 Coordinator, and one procurement strategist. Half of the respondents work in medium sized cities between 100,000 and 500,000 inhabitants. The second half is quite evenly divided over three categories of city size (up to 100,000, between 500,000 and 1 million, and also over 1 million). Roughly 60% of the respondents were from Scandinavia, Germany and Switzerland. This may reflect the fact that in these countries, over 65% of government final consumption is spent by subnational governments (in contrast with for instance France, Spain and Portugal, where this share is below 30% (SCP, 2001). This may also be part of the explanation for why the respondents from these northern countries qualified their experience with GPP as ‘high’ to ‘medium’.

⁴ We acknowledge the contribution of ICLEI in performing this survey.

When asked about products that were considered of particular interest to the respondents, most of them (88%) ticked office materials from the list of items shown in the questionnaire. Figure 3.1 gives an overview of the incidence of products that the respondents did “consider to be of particular interest in their work”.

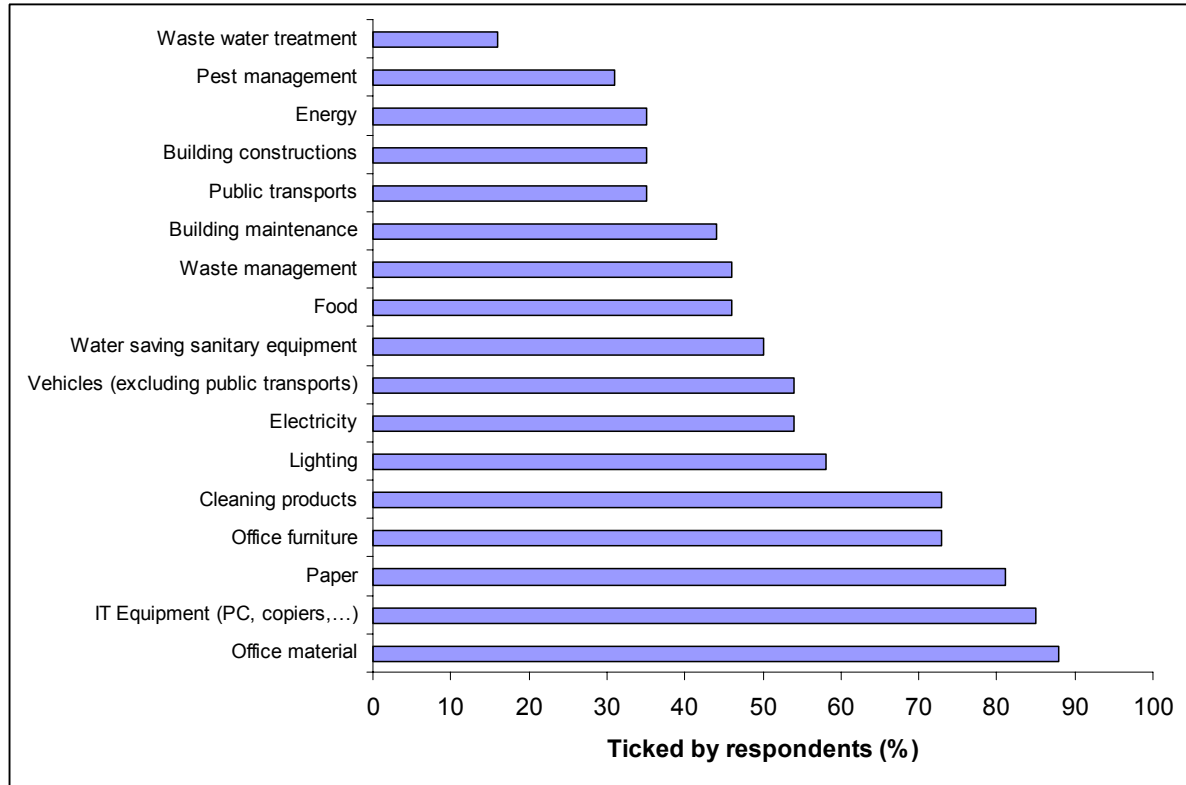


Figure 3.1 Products that the green purchasing community is concerned with (note “energy” does not include “electricity”).

A number of other products and services that were additionally identified by the respondents as being of interest include: timber; IT accessories; hospital equipment; floor coverings; wipe papers; diapers; graphical work (copying and printing); textiles; occupational therapeutic materials; toilet paper; and maintaining green spaces. The products mentioned by interviewees were also mostly small sized commodities rather than large products or infrastructure.

These results, in particular those summarised in Figure 3.1, suggest that most of green public procurement concerns the purchase of consumables (off-the-shelf products) in contrast with purchases that will be booked as investments. This suggests that for local authorities, including those that already pursue some GPP, there is scope to expand GPP into the direction of investments (e.g. buildings, transport infrastructure).

The future of GPP

There seems to be consensus in the GPP community that green public procurement will become mainstream and more professional over the next 25 years, moving away from being the result of the personal interest of individual procurers. This is seen as partly due to the

trickling down of political decisions and agreements to pursue GPP to the lower public management level.

Information on the green characteristics of publicly procured goods is expected to become readily available and green characteristics will be a standard criterion for procurement decisions alongside price and quality. Progressively stricter environmental criteria will lead to an extension of the range of green products available. The view was also expressed that the current lack of clarity surrounding legal rules for GPP would be resolved.⁵ A positive trend was also identified in the level of information available on GPP from sources such as non-governmental organisations (NGOs), European Union (EU) Member States and the EU itself.

There is some expectation that GPP will develop into “sustainable” public procurement, and incorporate social and economic impacts as criteria in procurement decisions. Examples of products for which sustainability criteria could be specified include clothing and other textile products (exclusion of those products produced using child labour), organic food (animal welfare issues), timber (sustainable timber) and fair trade goods.

There is a general view that the development of GPP practices by public institutions is a slow and incremental process. One interviewee guesses the rate of improvement at about 2% a year from a ‘general’ rate of replacement in means of production. Another interviewee described the development of GPP practices as following three stages. In the first stage, procurement officers collect information concerning the green characteristics of the available goods and services themselves and use this information to make their decisions. In the second stage, procurement officers specify information requirements on the environmental characteristics of purchased goods. In the third stage, public procurers set environmental criteria that goods and services should meet in order to be considered for purchase. This interviewee saw EU Member States as being at differing stages of GPP development, with some being at a relatively static state of full GPP development and others having very limited GPP practices. Opinions vary concerning the future development of this geographic distribution of GPP activities.

There is a chance that environmental management certification (ISO 14001 or EMAS) is also becoming relevant to public bodies.⁶ The costs of such certification, however, were considered to be high, and, in contrast with environmental management in industry, they are not compensated by higher income from the sale of products (for industry a certified EMS may give added value to its products).

⁵ These interviews were held shortly after the publication of the European Commission’s Interpretative Communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement (COM(2001) 274 final).

⁶ ISO 14001 refers to an organisation setting environmental targets, developing policies to meet targets and to monitor policies according to a structure laid out in the ISO 14001 norm. EMAS is a similar system, but gives stricter guidelines on what to monitor. Part of the system is certification by a verification firm. While noting that certification does not necessarily lead to environmental relief, organisations may be expected to exhibit a relatively high environmental performance.

3.3 Determinants of GPP

What are the drivers of GPP? What factors outside the direct control of procurers would one want to consider if one attempts to examine scenarios for the future of GPP? It is interesting to know what views are held in the GPP community with respect to the factors that are considered important drivers for GPP.

The interviewees identified several factors. First, they pointed at the importance of awareness about environmental issues among the public, in public organisations and, in particular, among politicians. Second, they pointed at the issue of the practical management of GPP, which is determining the legal scope for green procurements (e.g. clarity surrounding EU procurement regulation) and the availability of appropriate information about products and their green alternatives. This information may relate to standards and certification: adequate labelling, sustainability certification (e.g. FSC), eco-labelling, environmental standards on waste and pollution. Other factors considered to be of practical importance are the economic and accounting issues related to purchase decision making: transparency of (life cycle) costs between normal and environmentally friendly products, costs and quality of green alternative products, and the high price of energy. Third, some interviewees pointed at the role of industry in responding to the demand for green products – competitive tenders (in terms of price and quality) from producers of green goods and services are required to make GPP possible.

Table 3.1 Presumed determinants of Green Public Procurement (GPP).

Determinant	Description ⁷
Availability of green alternative products	Will GPP-demand prompt new ‘green’ products? Will there always be still greener products? Crowding-out effects? What are the future environmental problems?
Availability of information	How easy can a procurement officer identify green alternatives? Will centralisation of GPP become more viable, e.g. through ICT?
Privatisation/marketisation	Will the outsourcing of public sector tasks (e.g. public transport) be beneficial or detrimental to GPP?
Transparency of legal rules	Procurers may stay away from GPP because of expected legal complications associated with GPP.
Public awareness	A high public awareness of the environment issue will support initiatives of procurers to buy green.
Political profile/priority	Procurement decisions that require political consent will be greener the higher environment is on the political agenda.

For certain products, more than one type of industry will be involved in the development of green products and interviewees pointed at the importance of supply chain management for

⁷ The descriptions were not shown in the questionnaire.

the introduction of green products⁸. Finally, as indicated in the section above, the advent of systems for environmental management may prove to be a factor that is beneficial to GPP, according to some of the interviewees.

In an attempt to assess the relative importance of a core set of determinants, interviewees and respondents were asked to rank the determinants that are shown in Table 3.1. The results are presented in Table 3.2 below. The numbers in the table show the number of respondents that placed the given determinant in each particular ranking category – ranging from most important to least important.

Table 3.2 Respondent's ranking of factors that influence the development of GPP.

	Most					Least
Availability of green alternatives	6	4	13	3	5	1
Information on green products	6	6	8	10	1	1
Privatisation/marketisation	1	1	0	3	4	18
Transparency of legal rules	8	3	2	4	10	3
Public awareness	4	6	6	12	3	1
Political commitment	13	9	0	3	4	2

Note: number of respondents 32. Not all respondents did rank all factors.

Political commitment is clearly seen as the most important factor. Green procurement requires political backing to expand. The stakeholders perceive the importance of “transparency of legal rules with respect to green procurement” very differently.

Roughly half the respondents considered this important and the other half considered it unimportant. It is also striking that hardly anybody sees ‘marketisation/privatisation’ as an important factor.

In the context of ‘drivers of GPP’, there is also the question of the relative importance of the actors (or stakeholders) that are involved in GPP activities. Table 3.3 shows the results of a ranking by respondents of three types of stakeholders (politicians, procurement officers, suppliers of green products or services). The significance of the role played by each of the stakeholders in public procurement is perceived very differently. Politicians and procurement officers were equally identified as being of highest importance in determining the development of GPP.⁹ Politicians, however, were also regarded by a similar number of informants to be the least important. There was some consensus of opinion that the role being played by suppliers of green products and services is of secondary importance. Suppliers are in effect seen as reacting to changes in demand rather than being the driving force behind changes in the green characteristics of their goods.

A detailed analysis (Brander *et al.*, 2002) showed that the purchasers among the respondents tended to give lowest rank to suppliers, and that environmental officers consistently found purchasers to be the most (to middle) important.

⁸ For instance in the case of organic-food catering, several suppliers (farmers, food processing firms, packaging firms) must simultaneously adapt their activities (and share the first-mover risks), in order to facilitate the eventual final supply of organic food.

⁹ A number of interviewees also identified higher ranking civil servants as being the most important category of stakeholder.

Table.3.3 Ranking of the relative importance of stakeholders.

Type of stakeholder	High	Middle	Low
Procurement officers/purchaser	11	14	1
Supplier of green products	4	9	13
Politician	11	3	12

A major objective of the RELIEF project was to assess what GPP brings about with respect to direct reduction of environmental impacts. What are the opinions within the GPP community with respect to environmental evaluation of GPP?

Most of the interviewees commented that they did not think procurement departments of government organisations evaluate the environmental impacts of their green procurement activities. Such an evaluation would be very complex and could perhaps only be handled by central government. It was felt that this evaluation would not be feasible at a local government level. The comment was also made that local authority procurement officers may not even be able to thoroughly check the validity of the environmental claims made on the goods and services they purchase.

The survey among BIG-Net participants showed that around 55% of municipalities monitor their green procurement activities or evaluate the environmental impacts.

So the perceptions of the interviewees with respect to practising evaluation and monitoring do not seem to match with the outcome of the survey, although no details were given by the respondents on how this monitoring was conducted¹⁰, and most probably does not include an evaluation of the environmental impact.

Most of the local authorities that are monitoring their green procurement efforts are from Northern European Countries. This distribution corresponds with the geographical division of the level of experience of the respondents (Brander *et al.*, forthcoming).

The support of GPP to the development of green goods and services is often mentioned as its major rationale. It was generally felt by the interviewees, however, that GPP is not particularly effective in supporting the development of green goods and services. The environmental criteria set for procurement decisions were said to be largely in line with what is available on the market and so, in general, do not result in further product development. GPP was only considered effective in terms of development of green goods and services where it accounts for a significant share of the market (e.g. for medicinal supplies). It was also felt that GPP could have a positive effect in markets for fast changing technologies, for example computers. In markets with short replacement rates for products (e.g. organic food), changes in the green characteristics of the product can be rapidly taken up as well.

The questionnaire also posed the question “To what extent do you think green public procurement is effective in supporting the development of green goods and services?”.

A mix of views was expressed. Figure 3.2 shows that over two thirds of the local authorities surveyed perceive GPP to be a stimulator of improvement and innovation towards environmentally friendly products and services. One third think that this effect is still moderate,

¹⁰ It should be noted that BIG-Net participants only include public authorities that are already actively involved in green purchasing and therefore are not representative for local governments in general.

while no one thinks there is no effect. There seems to be no correlation between the function of the respondent and their answer (Brander *et al.*, forthcoming).

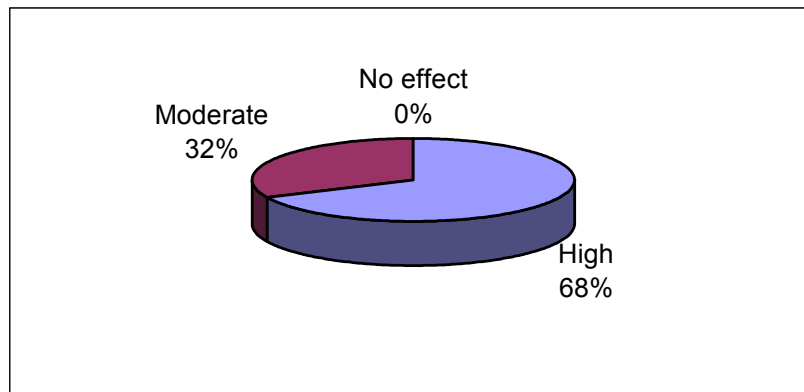


Figure 3.2 Effectiveness of GPP in supporting developments of green goods and services.

The informants gave the following examples of products for which public purchasers have acted as “pioneer customers” and thus contributed to their development: Paper; laundries; cleaning products; organic food; the use of plastic boxes for food (vegetables etc.) instead of disposable ones; low sulphur diesel; biodegradable and vegetable-based oil as hydraulic oil for maintenance equipment; PVC-free products for offices and hospitals; toner cartridges; washable bed-protectors in hospitals instead of disposable ones; low emission vehicles; and building material.

3.4 Discussion and conclusions

From the results of the interviews and questionnaire a series of conclusions has been drawn. First, GPP by local governments is not evenly spread across Europe and seems to be concentrated in Scandinavia and in German language countries. The origins of this geographical spread were not investigated. However, one may conjecture that this spread might reflect geographical differences in the level of centralisation of government spending. For instance, in the Scandinavian countries over 60% of total final government expenditure is by subnational government, while in countries like Spain and France this share is below 30% in 1996 (SCP, 2001). Apparently, there is relatively more “local spending” in the former countries and, consequently more procurement by local authorities. A geographical difference in the political profile of environmental issues across Europe may add to the explanation of the geographical distribution of GPP.

Secondly, the general opinion is that GPP is on the rise and increasingly local authorities opt for GPP. GPP becomes mainstream. The current rate of increase, however, is considered rather slow. Possible hurdles within the administration may explain the slow developments that are discussed by Guenther *et al.* (this publication).

GPP also develops in terms of the nature of the environmental problems that are addressed. For instance, in the past local authorities have been keen to not buy products that contained ozone depleting substances such as CFCs. Today, however, such products are not on the market anymore under the Montreal protocol that bans the marketing of these products. The inference is the importance of recognising that the environmental problems that can be ad-

dressed through GPP will change over time. In this respect, a current development is from green products to sustainable products, where sustainability refers to social and economic aspects as well as to environmental aspects. This might result in GPP evolving into sustainable public procurement (SPP).

Another type of development in GPP is the enlargement of the array of products eligible for GPP. Figure 3.1 shows that “off-the-shelf” products such as office materials and IT equipment are the most commonly purchased under green procurement schemes, and there seems to be scope for an increase in the purchase of energy (and electricity – see chapter on innovation) and for various capital expenditures, in particular in the area of building and construction.

Thirdly, regarding the views expressed on the drivers and hurdles for developments in GPP, the following conclusions can be drawn. Legal transparency with respect to the possibilities for GPP is assessed quite divergently.

Possibly, the recent Interpretative Communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement (EC, 2001) (COM 2001) 274 final) will resolve perceived unclarity.

Since it cannot be expected that local authorities/procurers will develop specific environmental expertise for green procurement, local procurers will continue to need easy access to relevant information on green alternatives. Current information and communication technology may facilitate making available the required environmental information at relatively low cost.

Finally, political commitment is generally considered to be of greatest importance. Apparently, PP practitioners do not yet consider GPP to be standard practice and so political decisions to practice GPP – following either political pressure or initiatives from within administrations – will continue to be needed.

4. Three scenarios

4.1 Introduction

This chapter presents three scenarios for the future of GPP, in particular for future environmental relief. These scenarios are stories about the possible future of GPP that try to consistently explore what impacts major trends – see Chapter 2 - could have on GPP in about 2025. Such scenario highlights the implications of an underlying (social) trend for future GPP. Their purpose is to sensitise GPP stakeholders to these trends in order to be better detect future GPP issues so as to be able to better develop long-term strategies.

These scenarios consider GPP at the European level. Within the framework of this study, it was not possible to address aspects of future GPP at a local level.

One can distinguish many trends that are relevant to developments of GPP. The analysis - in Chapter 2 and the survey (Chapter 3) - points at several drivers of GPP. First, there are the developments in the size of public spending by local authorities; it is obvious that the sheer size of public expenditures is important to the actual environmental impact of GPP. Constraints on the development of GPP have different nature. One constraint for instance is regulation of public procurement. One may see public procurement legislation as the outcome of political trade off between environmental interests and interests embodied by the market principle. So the position of the environmental issue on the political agenda eventually influences the legal scope for GPP. A constraint of very different nature would be the lack of appropriate green alternatives for products and services procured by public authorities. Technological development would be the basis for relaxation of this constraint. Finally, one notices a shift in the scope of the concept of “green”: from “environmental pollution” to “sustainability”.

Of course, these trends are not mutually independent. For instance, a shift in the concept of “green” (as used in GPP) towards “sustainability” implies that economic and social criteria will be included in procurement decision-making. Likely, procurement will touch on legal limits: one can imagine a tension between “sustainable” public procurement (SPP) and procurement law.

From the results of the survey of opinions and from discussion in the Relief research team we felt that it is most interesting to elaborate the future of GPP considering two major variables:

- The role of GPP in environmental policy making. We assume that there is room for a more important role for GPP in environmental policies that are pursued by governments, at all hierarchical levels. So, one scenario elaborates future GPP under the assumption that GPP will become more important for environmental policymaking. This is captured by the “Enthusiasm-for-GPP” scenario (Section 4.4);
- The shift from “green” to sustainable. Since the Brundtland report (1987) the concept of ‘green’ is gradually replaced by the concept of sustainability. In the area of eco-labelling – adjacent to the field of GPP – there is already a trend towards sustainability labelling. In the world of industry more and more attention is given to items such as “corporate social responsibility” and “business ethics”. As some of the interviewees noticed this trend

might have impact on GPP. The trend is signalled by the advent of organic food and fair trade products (e.g. coffee) in catering for public services. Organic food is justified for purely environmental reasons – the absence of pesticides and fertiliser in agricultural practice – but arguments such as the organic food sector contributing to rural – or local – development are heard as well. In the context of sustainability the ethical issue is animal welfare is also mentioned as an argument in favour of organic food production. So, GPP becomes a way to implement strategies towards sustainability in the wide sense. We will call this scenario the SPP scenario (Sustainable Public Procurement; Section 4.5).

These two scenarios will be contrasted with a business-as-usual (BAU) scenario. A BAU scenario (Section 4.3) tells the story from the assumption that there is no shift toward SPP and that the enthusiasm for GPP continues to be limited, in other words GPP does not expand in environmental policy making.

The trends that are assumed to be equal in all scenarios are:

- Economic development brings about a doubling of gross domestic product (GDP) over the period 2000-2025 and, under the assumption of no change in the ratio between government final consumption and GDP, public procurement doubles also;
- The capabilities of public administrations to identify and select green products increase with the development of information and communication technology and organisational change.

Before having a look into the future we first summarise – in Section 4.2 - the current situation with respect to GPP, and in particular the environmental relief potential of GPP. This description will be the reference against which the scenarios (in Sections 4.3, 4.4 and 4.5) are contrasted.

4.2 GPP: the current situation

4.2.1 Current environmental relief potential

Assessing the direct environmental benefits of buying green products – their environmental relief - is a colossal task that requires addressing many methodological and practical problems. Data availability proved to be a major bottleneck. Nevertheless Pierrard (Forthcoming) succeeded in identifying some information about the relief for some products. These products – the Relief products – were identified in an early stage of the Relief project. Pierrard (cf.) assessed the products' environmental relief in terms of emissions of CO₂-eq, of Photochemical Ozone Creation Potentials (POCP or tonne C₂H₄-eq), of SO₂ equivalents (acidification), of human toxicity and of eutrophication. Table 4.1 summarises his main results, in a very, very concise way. For each product we selected a single figure. Note that the relief figures depend heavily on the environmental properties of both the 'green product' and the reference product that are selected for comparison. Note also that, cf. Pierrard, a green product is not necessarily green in all environmental aspects. A 'green' bus for instance does emit less PM₁₀, NO_x and SO₂ than a 'brown' bus, but at the expense of somewhat higher CO₂ emissions. For buses the environmental relief is expressed in m³ air.

Table 4.1 Summary of selected European relief potentials by type of product.

Product	Assumptions	Relief
Electricity	If all local authorities would be buying green electricity, and assuming that other demand for green electricity is not crowded out. Green electricity is compared with brown (coal based) electricity rather than with average electricity (IEA, 1998; EC, 1997).	60 Mtonne CO ₂ -eq.
Computers	Environmental impact depends mainly on electricity consumption in the use phase. Actual Relief depends on series of assumption on the “brown” computer and mode of operation of computers. Computers are subject of product policies (Energy Star in the USA).	Ranges from 25 to 150 ktonne CO ₂ -eq.
Furniture	Environmental analysis focused on emissions from furniture production that create ozone problems. These emissions become subject to environmental regulations (Solvent directive) and tend to decrease.	Not assessed
Buses	GPP refers to the purchase of buses that already comply with standards (EURO IV and EURO V) that are expected to become in force years later.	80 Tm ³ air*
Sanitary products	Relief refers to water conservation from toilet cisterns and water saving taps on washbasins.	200 Mtonne water (0.6% of domestic water consumption)
Food	Calculations relate to production of wheat, vegetables, beef, pork, poultry meat and milk. Estimations of relief potentials are relatively weak. Relief potential relatively important to the problem of “nutrification” (or eutrophication).	50 ktonne NO ₃ eq.

* m³ air refers to the volume of air that is polluted at air quality standard.

Food constitutes a separate category of “green” products. This is since the term “organic” refers to concerns that extend beyond environmental motives: food safety issues and animal welfare considerations are prominent drivers to the development of the organic food sector. For food, it seems more appropriate to consider the wish for sustainability as the driving force rather than the wish for environmental improvement in a strict ecological sense.

4.2.2 Relief potentials and targets of environmental policy

Table 4.1 gives an indication what GPP could contribute to reduction of emissions, for the indicated products only. The questions rises “what would such GPP contribute to achieving established targets of European environmental policies?” The answer requires comparing relief potentials with European “distance-to-targets”, that is the required reduction of environmental stress to meet headline policy objectives. Distance-to-targets are found in, for instance, the annual publications of the European Environment Agency, for instance in the report Environmental Signals 2002 (EEA, 2002).

The environmental characteristics of the relief products are expressed in terms of emissions. Unfortunately, not all targets of European environmental policies are expressed in terms of emissions levels (or emission reductions). Often the targets refer to limit values of pollution, for instance limit values for PM10 air quality in urban areas.

Table 4.2 gives the evaluations of the relief potentials, in so far as the emission indicators of the EEA match the indicators of the Relief products.

Table 4.2 European Relief Potentials of “Relief products” in perspective.

Problem	Distance to target*	European GPP Relief of all indicator products
Greenhouse gases	320 Mtonne CO ₂ -eq.	60 Mtonne
Acidification	200 ktonne SO ₂ -eq.	300 ktonne SO ₂ -eq.
Ozone precursors	10.000 Ktonne TOFP	N.a. (potential expressed in C ₂ H ₄ -eq)
Eutrophication	Not available	225 ktonne NO ₃ eq.
Waste production	Not quantified	Not quantified
PM10 air quality	Not available	Not quantified

* Source: EEA, 2002, Pierrard (forthcoming).

The above table is based on the summary of the results of Pierrard (2002), which are shown in Table 4.3. Note that figures are rounded. Note also that the share of the relief of the different products is very much distributed. For instance with respect to acidification ‘electricity’ is the product of which the environmental relief overshadows the other beneficial effects of the other products.

Table 4.3 Total environmental relief of the Relief products (source Pierrard, 2002).

	CO ₂ -eq.	Acidification	Photochemical Oxidant Formation	Eutrophication
Unit	Mtonne	ktonne SO ₂ -eq.	tonne C ₂ H ₄ -eq.	ktonne NO ₃ -eq.
Green (compared to average) electricity	61	300	-705	174
Computers	0.16	0.9	16	0.5
Buses	-0.01	1	300	2
Food	1	18	500	50
Total	62.15	319.9	111	226.5

Clearly, the conclusion from Table 4.2 is that, in terms of direct relief, GPP could in particular contribute to meeting environmental targets with respect to emissions of greenhouse gases (EU compliance with the Kyoto protocol requires a reduction of CO₂ emissions with about 320 Mtonne CO₂-eq) and with respect to acidifying emissions. The potential contribution of GPP with respect to solving other environmental problems is relatively small, with the possible exception of urban air quality, where GPP could be an instrument to reduce emissions of public transport vehicles in urban areas and, hence, improve air quality¹¹, in particular with respect to PM10 air quality.

Note that the environmental relief with respect to acidification exceeds the distance-to-target for the emissions of SO₂-eq. This does not necessarily imply that the SO₂-eq target can be

¹¹ Note that, when examining relief potentials in detail, it is found that for some products the potential is not in all respects positive, e.g. clean buses emit little PM10, NO_x and SO₂ at the expense of higher CO₂ emissions.

met by GPP, since the uncertainty with respect to the relief potential for SO₂-eq is of similar magnitude as the distance-to-target itself.

Obviously, this assessment holds for the products of which the environmental properties were examined in the RELIEF study. Figure 3.1 showed that many more products are eligible for GPP. In the future these ‘new’ products, in particular, products in building and construction, might become more important because of their potentially high environmental relief.

4.2.3 GPP and public procurement law

One of the major framework conditions that determine the future of GPP is its legal context. Barth and Fischer (2002) provide a discussion of the current “state-of-the art” with respect to European level procurement law in relation to environmental law and policy. The paper of Barth and Fischer is basically a discussion of the Interpretative Communication on European law with respect to public procurement issued by the European Commission in 2001. The central issue is how in public procurement the principle of non-discrimination excludes the possibility to take on board certain (e.g. environmental) consideration in decision making on public purchases. Table 4.4 gives a summary overview of the elements of a public procurement procedure and what environmental considerations are relevant in each stage of tender procedures, given EU law.

In sum, see for a discussion Barth and Fischer, the two main topics in the discussion on environment and public procurement law are (See also Fischer-Braams *et al.*, 2002):

- How could the concept of “external costs” be used in deciding on the “tender, which is economically most advantageous to the contracting authorities”?
- Can secondary policy criteria be used in the award criteria? One may wonder whether the first issue has a wide practical relevance. This is since, in practice, assessing the external costs of some public purchase will be surrounded with very high uncertainties¹²;
- Stating environmental requirements in the three first stages of the procurement procedure can easily circumvent such problems. Indeed, the opinion that the “external cost” issue has little or no practical relevance to green public procurement is not contested by the results of the survey of the views of GPP stakeholders, that is, none of the surveyed mentioned this topic.

The second topic seems to be more relevant. This is because the Amsterdam Treaty (1997) says (article 6) “Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities as referred to in article 3, in particular with a view to promoting sustainable development”. The Helsinki Council (December 1999) asked Commission to propose a ‘long-term strategy dovetailing policies for economically, socially and ecologically sustainable development’. This wish to integration and co-

¹² New research might to reduce uncertainties (that are now order of magnitude), however, only to limits set by methodological difficulties. Costs of research is likely high, since externalities depends highly on specific situations and their assessment requires specific study.

ordination of policies of different nature constitutes a driver for adopting secondary policy criteria in the public procurement procedure¹³.

Table 4.4 Leverages in EU-procurement law for introducing environmental considerations; an overview.

Stage in procurement procedure	Environmental considerations
Definition of the subject matter of the contract	This the moment that environmental considerations and/or requirements should be indicated
Drawing up technical specifications	Product specification may relate to demands on type of materials/substance in the product (or service) The specification may relate to the environmental characteristics of process and production methods (PPMs) Product specification may refer to eco label criteria (of certified eco-label systems) Purchasers are allowed to formulate specific environmental requirements (other than implied by 'standard' requirements of, for instance, eco-labels)
Selection of tenderers	Environmental considerations may become relevant in the assessment of the 'technical capabilities' of candidates. This assessment cannot rely on an evaluation of a firm's management structure (i.e. environmental management schemes such as EMAS or ISO 14001 are not sufficient proof of high environmental performance of a product or service)
Awarding a contract	The legislation distinguishes three award criteria: lowest price; most economically advantageous, and "additional award criteria". The discussion is on the scope of the applicability of the concept of "external costs" as an element of deciding on "most economically advantageous" and, in the context of additional criteria, on "secondary policy criteria" (e.g. social policy goals)
Execution of the contract	The procurement directives do not cover the execution stage of a contract. The contract, however, may specify rules for the execution of the contract (e.g. recuperation of packaging material)

Source: After Barth and Fischer (2002).

4.2.4 Hurdles to GPP

Günther (2002) gives an overview of impediments to green purchasing. She describes the result of a survey among GPP stakeholders in six cities (in which green purchasing is adopted). These stakeholders were asked their opinions about 22 statements with respect to possible

¹³ One may compare this with (Dutch) approaches to defence purchases, where economic policy objectives are incorporated in the decision-making discussion.

impediments. There are 4 statements¹⁴ about which most of the interviewees did agree as being hurdles:

- There are different views at several decision levels of my local authority concerning the inclusion of environmental criteria in the field of public procurement;
- The applicable law concerning the inclusion of environmental criteria is very complex;
- Environmentally friendly products and services are too expensive;
- The inclusion of environmental criteria in procurement decisions causes additional work.

An assessment of future developments in GPP will, obviously, require a discussion about how these hurdles to GPP would be overcome¹⁵.

4.2.5 Products and service eligible for green procurement

Figure 3.1 shows that GPP of most BIG-Net participants concerns the purchase of off-the-shelf products such as office materials, computers, paper and furniture.

The calculations within the RELIEF project focused only on a few of these products (for practical reasons). Among the products that were not addressed there are some that likely have large relief potentials. One may think in particular of buildings (the construction and renovation of buildings for public administrations). Public expenditures on buildings are as a rule the responsibility of departments other than those responsible for day-to-day purchases of off-the-shelf products (Clement *et al.*, forthcoming). This may explain why GPP in the area of building and constructing is less prominent (See Figure 3.1). A similar position is held by public transport.

So, one can conclude that the practice of GPP could expand by covering more and more types of public expenditures, next to expansion in the sense of more and more public authorities putting GPP into practice.

4.3 The Business-As-Usual scenario

Business as usual (BAU) means: policies will go on as they are going on now and no new GPP policies will be implemented. The two key assumptions are that the role of GPP in environmental policy making will stay at the current – low – level; the role of GPP in environmental policy, will not become more important than it is today. Still, GPP will increase, but primarily as a result of general economic growth, which in turn will lead to an increase in government final expenditures. Another BAU assumption is that, through improvement in ICT and skills of procurers, the transaction cost of identifying green products will lower, which will have a beneficial effect on the volume of GPP. There is, in the BAU scenario, no expansion in the number of the products/services that can be procured green. The basket of products will stay as indicated by Figure 3.1. What would this mean for the environmental relief potential with respect to the RELIEF products?

¹⁴ A fifth statement that most did agree on was “Higher demand for environmentally friendly product and services alternatives by users within the local authority is a premise for more environmental procurement”.

¹⁵ The assumption is that these hurdles – indicated by interviewees in cities where GPP is accepted – also apply to situations where local authorities yet have to adopt GPP.

Green electricity

The spreading of the purchase of green electricity by public procurers will help to reduce CO₂ emissions that can be attributed to the public sector. However, the assumption is that no crowding-out will occur, i.e. that the demand for green electricity – electricity from renewables according to COM (2001/77) - from the public sector will not impede supply to the private sector. Such would be the case if the capacity of producing green electricity is limited. Scenarios for the future (2015) of the energy sector in Europe indicate that under an all out effort the future share of ‘green’ electricity is in the order of magnitude of 10% at max (Ribeiro *et al.*, 2002), which is in the range of the share of public demand for electricity. A demand for green electricity is beneficial in the sense that it would keep the pressure on maximising the production of green electricity.

Given the current potential (60 Mtonne CO₂-eq), and the assumption (See Section 2.1) that public spending will increase with 50%, the future relief potential would, *ceteris paribus*, be in the order of magnitude of 100 Mtonne CO₂-eq.. This potential will (and can) be exploited only partially because of the constraints of production capacity and competing demand for electricity from renewables by other parties.

Computers and copiers

With respect to greenhouse gas emissions, the direct environmental effect of buying (and operating) low-energy computers is small compared to buying green electricity. Indirect – spill-over – effects on these emissions are likely more important, since public administrations constitute major markets for computers and peripheral equipment (printers and copiers). Next to electricity-consumption induced air pollution, the use of computers and the like generates other forms of environmental stresses, in particular the production of various types of waste at production of computers (Schmidt *et al.*, forthcoming). Unfortunately, relief potentials with respect to these impacts were not established.

Buses

The environmental problem that is addressed mostly by the introduction of green buses (i.e. EURO IV and EURO V) is exposure of urban population to airborne PM₁₀ (particulates). This is, however, at the expense of higher emission of CO₂. Compared with total CO₂ emissions or with required CO₂ emission reduction, this higher emission is tiny.

The environmental – PM₁₀ air quality mainly - gain of GPP in public transport is from public transport using “clean” buses from the moment they are available, rather than from the moment that public transport companies are obliged to buy “clean” buses. So, future relief depends on the rate of public transport companies buying ‘clean’ buses compared to the pace in the progressive standard setting by the EC (the EURO standards).

Fuel cell buses, now about to be tested in practice, are viewed as the zero-emission alternative (disregarding possible emissions from producing fuel, e.g. hydrogen). Local governments and administration can support the maturing of these techniques. Eventual, these experiences would support environmental policies that would establish zero-emission standards. In the BAU scenario the support of local authorities continues to be an exception rather than a broad development supported by a specific policy that aims to maximise the role of local authorities in technological development.

For products such as furniture and sanitary products the expectation is that the green product will become mainstream without a special role for public procurement. Our green furniture differs from “brown” furniture with respect to VOC emissions associated with the lacquering. These emissions however are subject to dedicated environmental legislation (VOC directive of the EU), and all furniture will be greened (i.e. with respect to VOC emissions). In this way there will be no more environmental relief from GPP of furniture.

Food

Pierrard estimated that about 5% of all food expenditures are by the public sector (i.e., office canteens, school canteens, welfare organisations). This is a very rough estimate. The development of the sales of organic food¹⁶ – driven by concerns with respect to environmental pollution, animal welfare, nature and landscape protection, risks of gene-technology and food safety – depends very much on costs of food, consumer preferences and the technical capacity to co-ordinate production, storage, transport and market organic food. The developments in differences in prices of organic food and “conventional” food is likely very important to developments as well. The estimate of the current environmental relief potential associated with public procurement of organic food is only indicative. Because of this high uncertainty estimates of future relief have little meaning, and we cannot discuss the nature and level of environmental gains from future purchase of organic food by public authorities. However, it is likely that the assessment of the environmental gains of organic food, in particular with respect to greenhouse gas emissions, would include an evaluation of the difference in transport activities in the marketing of “conventional” food and organic food.

In conclusion

For each of the products mentioned above the driver of its future is different. For “green” electricity much depends on European energy and environmental policies (e.g. carbon taxes). The stronger the energy policies favour the development of “green” electricity the weaker will be the relative significance of GPP as an instrument to favour the production of green electricity.

The Relief study did not assess the current direct environmental relief from GPP, in other words to what extent current relief potentials are exploited. Our guess is that such extent ranges from nil to 25%, depending on the nature of the product. Figure 3.1 suggests that “office materials”, being the “traditional” green product, is the product of which the relief potential is most exploited. Under business-as-usual the share of GPP will not increase.

4.4 Enthusiasm for GPP

This scenario says that more authorities will buy more and more different types of green products, so the relative potential will be more exploited. The assumed key to this development is the greater importance attached to GPP as an instrument for environmental improvements against the background of an increase in public and political awareness about environmental problems. Such would imply that hurdles - See Section 4.2.5 - such as “difference in views among GPP stakeholders in local administrations” and “higher prices of the “green”

¹⁶ Sales of organic food & beverages are in the range of 1% - 2% of total European food sales (in €) in 2000 (Yussefi and Hiller, 2002). Sales were highest in Denmark: 2.5% - 3.0%.

product” would become less important than they are today. Also, one may expect that the greater importance attached to the environment will justify the “additional work” (the fourth hurdle) required to identify and buy green products (and to overcome the perceived legal complexities).

Against this background several actions at national or European levels would be in the vein of such development. A first action would be the creation of centralised green procurement institutions (that lower transaction costs). This would address the specific hurdle that stems from a lack of available information on green alternatives, which may exist in particular in countries where GPP is a relatively sparse phenomenon. In some countries there are already such institutions. For instance in Austria there is a Procurement Service Austria¹⁷, which develops information-based, training and communication tools for GPP. This institution is funded by the National Ministry of Environment. In other countries, there are similar national level initiatives, though less elaborated. Initially, in the beginning of the nineties of these initiatives resulted in printed guidelines. Today these sources of information are found on the web (e.g. <http://www.inkopers.net/> for the Netherlands, and <http://www.sustainable-development.gov.uk/sdig/improving/partf/greenbuy/index.htm> for the UK).

A second action would be the establishment of institutions that co-ordinate procurement of local authorities. Such institutions would constitute strong market forces, and create stronger incentives for green product marketing than uncoordinated efforts of single local authorities. Most likely such action would have to come from the local authorities themselves (bottom-up initiatives), rather than imposed upon by higher authorities. Bottom-up initiatives may have the advantage to be best adjusted to local conditions. A scenario would be that local authorities seek co-operation with neighbour local governments.

Thirdly, there could be an improvement of the co-ordination of procurement with research and development activities/innovation policies. This holds in particular for activities in the public sector that establish niche markets, for instance public transport and techniques for waste treatment. Government agencies that are concerned with R&D would attempt to focus more on the opportunities for technical developments that are offered by these niche markets. On the other hand, local governments would be more active in offering to participate in development of green products.

Fourthly, local governments could improve the co-ordination of their environmental procurement and financial policies, in order to better identify win-win options for procurement and environmental policy alike. An example is advancement of the instrument “energy performance contracting”. The use of the instrument would have a big potential for making maximal use of the relief potential of public spending on buildings (and building management).

A fifth action - of national governments - would be the intensification of integrated product policy, which results in a wider spectre of green products available to local administrations and governments (and other users as well).

Finally, national governments could provide finances and organisational support to local governments for ‘greening’ their activities. Such action would specifically address the fourth major hurdle identified by Edeltraut *et al.* (2002) (See Section 4.2.5). Greening activities could

¹⁷ www.ifz.tu-graz.ac.at/bsa/.

refer to for instance setting up local environmental management schemes (e.g. EMAS, ISO 14001 or own systems).

The result of these actions – from a heightened interest in the potential of green procurement for environmental progress - is also manifold. A first major result would be that GPP spreads to more products and services; Figure 3.1 suggests that there is certainly room for more products and services that could be considered by procurers; while over 80% of the respondents of the survey indicate to purchase “green” office materials, about 50% is engaged in the procurement of “green” electricity and energy and even less in the procurement of buildings. One is inclined to say that the direct environmental benefits from buying green office materials will be easily surpassed by the benefits from, for instance, activities related to buildings and energy.

Secondly, it is likely that GPP would spread more quickly to the south, west and east of Europe.

Thirdly, the actions mentioned above will also result in the greening of investments of local governments (as opposed to applied in day-to-day expenditures for off-the-shelf products). The Relief project was not able to systematically examine the environmental relief potential of the greening of for instance investments in building (both new buildings and renovation of existing buildings). However, anecdotal information from the local Relief cities confirms our expectations that the greening of these expenditures has great environmentally beneficial effects, in particular with respect to CO₂-emissions (due to energy conservation).

4.5 Sustainable Public Procurement (SPP)

This scenario tries to capture the consequences of a movement from buying ‘green’ products to ‘sustainable’ products. Sustainable is here a threefold concept that comprises considerations about socio-economics and equity/ethics, next to pure environmental considerations. Today GPP is an activity that is functional in environmental policy making mainly. SPP would be functional in other policy areas as well, for instance rural development, local development, gender policy, in agricultural policy, animal welfare, and in policies to support developing countries. This would be in the vein of the Amsterdam Treaty (1997). Article 6 of the EC Treaty as amended by the Amsterdam Treaty says: “Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities referred to in Article 3, in particular with a view to promoting sustainable development”.

The goal of sustainability, in the sense of Agenda 21, is also spreading within the private sector. Corporate social responsibility (CSR) is increasingly being discussed and adopted in industry.

SPP could also become an item in the context of Local Agenda 21 processes. In Europe there are about 5000 municipalities that adopted the Agenda 21. SPP would be one of the means to implement local strategies for sustainable development.

What would be the hurdles to overcome for SPP becoming important in sustainable development in the wide sense? One major impediment would likely be current EU-procurement law, for instance, how to justify the use of secondary policy criteria (other than environmental considerations) against the market principle in the awarding stage of public tender procedures.

A second topic is the higher demands to procurement administrations. Their activities will become more complex because of increased levels of co-ordination of their activities with

other bodies of local administrations and government. For instance, one can think of public procurement to be an instrument to also address local problems of unemployment. GPP stakeholders have indicated that inclusion of environmental criteria in their procurement decision-making is felt as an extra work load, the same holds *mutatis mutandis* for having to take account of other than environmental policy interests.

What would such scenario mean with a view to the products and associated environmental relief? For several products it would not make any difference since they do not associate with specific economic and social issues, for other products one can think of sustainability issues to associate a product with (e.g. building & construction and fair trade timber).

Table 4.5 gives a preliminary overview of issues of sustainability one could think of in the context of these products. For some products, e.g. waste water treatment and lighting, it is difficult to identify other than environmental aspects of sustainability.

Table 4.5 Products and possible issues of sustainability.

Product	Sustainability issues other than environmental (emissions)
Office material	-
Computers, copiers	-
Paper	Biodiversity issues, forest protection
Office furniture	Fair trade timber, forest protection
Cleaning products	Occupational health issues
Lighting	-
Energy incl. electricity	Energy crops & rural development
Sanitary equipment	-
Public transport (PT)	Level of public services, social cohesion, employment, traffic safety
Vehicles exc. PT	Public services to elderly, employment, traffic safety
Waste management	Labour conditions
Food	Local food production, rural development, animal welfare, employment, landscape protection Genetically modified organisms (GMO), food safety, fair trade products
Waste water treatment	Public health
Pest management	Employment, nature protection
Construction & maintenance buildings	Fair trade timber, public housing schemes, social cohesion

Especially, food is a product that seems to associate with many issues of sustainability other than strictly environmental. And, in the case of organic food, the non-environmental benefits of organic food may go hand in hand with environmental benefits such as those less transport in organic food marketing. Public procurement of organic food seems an instrument to promote 'localisation'.

The list of issues is likely not exhaustive. In specific localities there are many other issues that one can think of. However, this listing suggests that public procurement constitutes a

leverage to address “quality of public service” (public transport to those who do not have cars) and rural development.

The present studies did not attempt to assess the “sustainability potential” of public procurement at all. Indeed, assessing the environmental relief was already hardly possible. The listing above is, therefore, only a very sketchy picture of the role of public procurement in sustainable development. Nevertheless, stakeholders in public procurement might consider their future role in sustainability. Some of them are likely already involved in such process in the context of local agenda 21 processes.

5. Conclusions

This paper attempts to identify possible directions that GPP might take in the future and what these would mean for future environmental relief and for future Green Public Procurement. This attempt was done by taking stock of what drivers (determinants) are behind the developments of GPP, by gauging the GPP community on views with respect to current GPP and developments, and by considering in what ways GPP could develop.

To start with the latter:

- GPP expenditures would increase just because of a general development of the European economy (and associated public expenditures);
- GPP could expand geographically, in the sense that more and more local authorities would adopt GPP;
- Green criteria could be applied in the procurement and purchase of more different products (and services), beyond the classic office materials. The basket of GPP products will be more full;
- The nature of the environmental criteria could develop from purely environmental towards sustainability criteria that concern social and economic aspects.

The survey among GPP stakeholders and the hurdle analysis of Günther *et al.* (2002) and own additional analysis gave similar results with respect to drivers and, antagonistically, the hurdles.

Vis-à-vis the environmental problems, GPP in Europe becomes an approach in environmental policy that is especially important to address persistent environmental problems, in particular greenhouse gas emissions.

The Business-As-Usual scenario says the GPP – as it is today – stays at the same level as it is today. Nevertheless, GPP increases, but only as the result of an increase of public spending, which, in turn, increases as a result of economic growth (though these expenditures are assumed to grow at a lower rate than the European Gross Domestic Product (GDP)).

The Enthusiasm-for-GPP scenario says that GPP will become a more prominent instrument for environmental policymaking than it is today. This means that GPP will expand in two directions: GPP will become a mainstream activity, and, second, GPP will cover more and more types of public spending, for instance spending on buildings and building management.

The Sustainability scenario says GPP will develop into sustainable public procurement (SPP) taking into account issues with respect to equity and economic development in decision making on procurement. SPP could, for instance, become a part of Agenda 21 processes. Organic food might be a product that, in particular, would be a target for SPP.

References

- Barth, R. & Fischer, A. (Forthcoming). The European Legal Regime on Green Public Procurement - Corresponding and Colliding Aspects of Environmental Law and Procurement Law in the EU. In Erdminger, C. (Ed), *Buying into the environment: Assessing framework, potential and status quo of eco-procurement in Europe*, Earthscan, London.
- Clement, S., Plas, G. & Erdminger, C. (Forthcoming). Local experiences – green purchasing practices in six European cities, In Erdminger, C. (Ed), *Buying into the environment: Assessing framework, potential and status quo of eco-procurement in Europe*, Earthscan, London.
- Christansson, K., Guenther, Hell, S., Klauke, I., Olsthoorn, X. & Wollmann, R. (2002). *Malmoe Green Purchasing Status Report*, Institute for Environmental Studies, IVM-VU W-02/01, Amsterdam, 30 pp.
- European Commission (2001). *Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market*, OJ L 283, 27.10.2001, 33 pp.
- European Commission (2001). *Interpretative Communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement* COM(2001) 274 final, European Commission, Brussels.
- European Commission (1999). *Economic foundations for Energy Policy, Energy in Europe*, Special Issue, EC-DG Energy, Brussels.
- European Commission. (1997). *Energy for the future: renewable sources of energy. White Paper for a Community Strategy and Action Plan*, COM(97) 599 final (26/11/97).
- European Environmental Agency. (2002). *Environmental Signals 2002*, EEA, Copenhagen.
- European Commission (1997). *Energy for the future: renewable sources of energy. White Paper for a Community Strategy and Action Plan*, COM(97) 599 final (26/11/97).
- Fischer, A. (2001). *The Way towards Green Public Procurement - An Analysis of the Recent Interpretative Communication of the European Commission*, Environmental Law Network International, 2/2001, 1-10.
- Fischer-Braams, A.C.M., Geerdink, J.H., Houten, T.O. van, Nieleman, I.W., Saanen-Siebenga, N. & Tukker, A. (2002). *Pilotstudie Duurzaam inkopen en de EG-aanbestedingsrichtlijnen (eindrapport) (Pilot study sustainable procurement and EU procurement directives)*, Pels Rijcken & Drooglever Fortuijn and TNO Strategie, Technologie en Beleid. From www.inkopen.net (25/11/2002).
- Froggatt, A., Mallon, K. & Dalziell, J. (2000). *The Liberalisation of Europe's Electricity Markets - Is the environment paying the price for cheap power?* Greenpeace International.
- Günther, E. Hurdles to green purchasing, method, findings and reflections from the hurdle analysis, In Erdminger C. (Ed.), *Buying into the environment: Assessing framework, potential and status quo of eco-procurement in Europe*, Earthscan, London.
- Grijp, N. van der (1998). The greening of public procurement in the Netherlands. In Trevor Russel (Ed), *Greener Purchasing. Opportunities and innovations*, Greenleaf Publishing, Sheffield, 60-17.
- IEA, (1998). *Benign Energy? The environmental implications of renewables*, International Energy Agency, Paris.
- Jungbluth, N. (1999). *Case Studies, Research Groups and Results of LCAs for Food Products*, ETZ Zentrum/HAD, Zuerich.

- Marron, D. (2001). *Greener public purchasing as an environmental policy instrument*, OECD Workshop on financial, budget and accounting issues in greener public purchasing, Vienna, October, 29-3`01.
- OECD. (1997). *Eco-labelling: actual effects of selected programmes*, OECD/GD(97)105, Paris.
- OECD. (1999). *Trade issues in the greening of public purchasing*, Organisation for Economic Co-operation and Development, COM/TD/ENV(98)111/Final, Paris.
- Pierrard, R. (Forthcoming). Results of the European calculation, In Erdminger, C. (Ed), *Buying into the environment: Assessing framework, potential and status quo of eco-procurement in Europe*, Earthscan, London.
- Ribeiro, T., Aalst, R. van, Jol, A., Vos, H. & Luiten, H. (2001). *Air pollution outlooks - an evaluation- Integrated assessment methodologies and tools applied to air pollution and greenhouse gases*, EEA, Edited final draft report, May 2001, Copenhagen.
- SCP (Sociaal Cultureel Planbureau) (2001). *The Netherlands in an European Perspective. Social & Cultural Report 2000*, Social and Cultural Planning Office, The Hague, (www.scp.nl).
- Schmidt, A. & Fryendal, J. (Forthcoming). The environmental method. In Erdminger, C. (Ed.), *Buying into the environment: Assessing framework, potential and status quo of eco-procurement in Europe*, Earthscan, London.
- Yussefi, M., & Willer, H. (2002). *Organic Agriculture Worldwide 2002. Statistics and future prospects*. SOL, Sonderausgabe Nr. 74, BadDheim, (www.soel.de/inhalte/publikationen/s_74_04.pdf).